COUNCIL AGENDA: 6/11/13
ITEM: 4.1

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Kerrie Romanow

SUBJECT: SEE BELOW

DATE: May 21, 2013

Approved [signature] Date 5/28/13

COUNCIL DISTRICT: 4

SUBJECT: SAN JOSE MUNICIPAL WATER SYSTEM'S WATER SUPPLY ASSESSMENT FOR ZANKER ROAD MATERIALS RECOVERY FACILITY

RECOMMENDATION

Approve the San José Municipal Water System's Water Supply Assessment for the Zanker Road Materials Recovery Facility Planned Development Zoning (PDC12-029).

OUTCOME

Council approval of the Water Supply Assessment (WSA) will fulfill the requirements of the California Water Code and the California Environmental Quality Act.

BACKGROUND

The Municipal Water System (Muni Water) has prepared a WSA for the proposed Zanker Road Materials Recovery Facility Planned Development Zoning (Project) as required by State law. The Project site is located at 675 Los Esteros Road in Alviso. The Planning Department, as part of its review of the Project, prepared an Addendum to the 2008 Zanker Materials Recycling Facility Project Environmental Impact Report and 2009 Mitigated Negative Declaration for the Project.

California Water Code Section 10910 (Senate Bill 610) requires that a water supply assessment be prepared and provided by any retailer that may serve certain types of proposed projects including a project involving an industrial, manufacturing or processing plant occupying more than 40 acres of land. The CEQA Guidelines similarly classify a 'water-demand project' as "an industrial, manufacturing, or processing plant occupying more than 40 acres of land." Although the Materials Recovery Facility buildings will occupy fewer than five acres at build out, the total project area, including areas used for materials recovery and residual landfilling operations, is 52.5 acres; therefore, the Project constitutes a water-demand project for which a water supply assessment is required.

The purpose of a WSA is to analyze and document sources of water supply, quantify water demands, evaluate drought impacts, and provide a comparison of water supply and demand. This allows for a determination of water supply sufficiency to be made for large development projects in connection with the City's consideration of whether to approve the project.

Per Section 15155(b) of the CEQA Guidelines and Section 10910(g) of the California Water Code, the governing body of a public water system that will serve a "water demand project" must approve a water supply assessment at a regular or special meeting. In its role as the governing body for Muni Water, the City Council is the appropriate decision-making body for approving the WSA prepared for the project.

ANALYSIS

Muni Water retained the services of Schaaf & Wheeler to assess whether its existing and future water supplies for the North San Jose/Alviso service area would be adequate to meet the projected water demands associated with the Project, and to prepare the required WSA (which is Attachment 1). Although Muni Water does not currently provide water to the Project site, it is the water retailer for the area and will be supplying both potable and recycled water to the Project in the future. The WSA projects maximum water demands attributable to the development of the Project of approximately 18.6 acre-feet per year (AFY), which is equivalent to approximately 16,605 gallons per day. Of this total, 13.5 AFY is projected to be supplied from recycled water and 5.1 AFY is projected to be supplied by potable water. The WSA concludes that the anticipated water demands for this Project are consistent with the projected demands contained in Muni Water's Urban Water Management Plan, which includes projections through 2035.

As discussed in the WSA, potable water is provided to Muni Water's North San José service area from the San Francisco Public Utilities Commission (SFPUC). In 2009, Muni Water entered into both a master Water Supply Agreement (the agreement common to all Bay Area Water Supply and Conservation Agency (BAWSCA) agencies), and a Water Sales Contract (specific to Muni Water) with the SFPUC. The City currently has a contract for up to 5,039 AFY (4.5 million gallons per day, or mgd); this contract is both temporary and interruptible. The Water Supply Agreement with the SFPUC is temporary because the agreement provides that the SFPUC will only supply water until December 2018. In December 2018, the SFPUC is supposed to make further decisions on future water supply beyond 2018, after completing necessary cost analyses and CEQA evaluation/documentation. The supply is interruptible before December 2018 if the SFPUC determines that aggregate use by all BAWSCA agencies will exceed 184 MGD in 2018. In the event this occurs, the SFPUC will notify the City of its intent to reduce or interrupt water delivery and the City will have an additional five (5) years of water supply in order to provide the City with time to identify alternative sources of water. Muni Water's Urban Water Management Plan assumes that the existing water supply from the SFPUC will remain the same through 2035. This assumption is an extrapolation of current and historical water deliveries, as these deliveries have been fulfilled for over three decades.

As discussed more fully in the WSA, the water demands associated with the Project are consistent with and included within the estimated water demands of the Envision San José 2040 General Plan Update and Muni Water's 2010 Urban Water Management Plan.

EVALUATION AND FOLLOW-UP

No additional follow-up action with the Council is expected at this time.

PUBLIC OUTREACH/INTEREST

- ☐ **Criteria 1**: Requires Council action on the use of public funds equal to $1 million or greater.
  (Required: Website Posting)
- ☐ **Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- ☐ **Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Council or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This item does not meet any of the above criteria; however this memorandum will be posted on the City's website for the June 11, 2013 Council Agenda.

COORDINATION

This memorandum was coordinated with the City Attorney's Office and the Department of Planning, Building, and Code Enforcement.

CEQA

Exempt, File No. PP10-066 (d), Planning and Feasibility Studies.

/s/
KERRIE ROMANOW
Director of Environmental Services

For questions please contact Jeff Provenzano, Division Manager, at (408) 277-4218.

Attachment

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

1171 Homestead Road, Suite 255
Santa Clara, CA 95050
(408) 246-4848
FAX (408) 246-5624

MEMO

TO: Michael Lisenbee, David J. Powers and Assoc. DATE: April 30, 2013

FROM: Charles D. Anderson, PE JOB #: DPOW.67.13
Caitlin J. Gilmore, PE

SUBJECT: Water Supply Assessment for Zanker Landfill Expansion in San Jose

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Zanker Landfill proposes an expansion which includes the addition of 160 employees and new office, maintenance, and scalehouse buildings at their facility at 675 Los Esteros Road in North San Jose. This water supply assessment is being performed in accordance with the California Department of Water Resources' Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001 (SB610) to determine the potential impacts of the expansion.

The Site currently obtains all its non-potable water from an on-site well. Existing activities at the site that use non-potable water include the office toilet, vehicle maintenance, cleaning, and dust suppression. Potable, bottled drinking water is provided at the administration office, maintenance yard and employee break room by a bottled water distributor. Hand-washing facilities are available in the employee facility area. The nearest potable water source is supplied by San Jose Municipal Water System (SJMWS). San Jose Municipal Water receives supply for the North San Jose/Alviso service area from the San Francisco Public Utilities Commission (SFPUC). The expansion project plans to decommission its existing well and install a new water line and connection to the SJMWS pipeline for potable water.

In order to be subject to SB610, the Landfill Expansion would need to be defined as a "project" by California Water Code Sections 10912. A "project" can be defined as "A Proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area" [1]. The Zanker Landfill occupies greater than 40 acres in area which fulfills the requirements of a "project" and is subject to SB610. The expansion is analyzed based on existing Urban Water Management Plans (UWMP) and Water Supply Assessments (WSA) prepared by the water suppliers under SB610. The following documents were reviewed for water supply assessment of North San Jose as pertaining to the Zanker Landfill Site:

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[1] California Department of Water Resources' Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, pages vi-vii, October 8, 2003.

SF Public Utilities Commission 2010 Urban Water Management Plan, June 2011
Water Supply Assessment for Envision San Jose 2040 General Plan Update, Sep. 2010
San Jose Municipal Water System 2010 Urban Water Management Plan, May 2011

Existing zoning at the Zanker Landfill is A(PD) Agricultural Planned Development according to the City of San Jose zoning map dated January 2013, included as Attachment 1. According to the Envision San Jose 2040 General Plan zoning map dated January 2013 (included as Attachment 2) the planned zoning for the landfill is Light Industrial: Solid Waste Disposal Site.

The SJMWS Urban Water Management Plan demonstrates an increase in demand in the North San Jose/Alviso area through the year 2035 and states that "the increase in demand is attributable to the proposed development projects as identified within the draft Envision San Jose 2040 General Plan Update"[2].

Table 1: Projected Potable Water Demand for SJMWS in North San Jose/Alviso by Year (AFY)[3]

Service Area	2005	2010	2015	2020	2025	2030	2035
North San Jose/ Alviso	5,047	4,535	7,183	8,099	8,833	9,635	10,589

The 2008 total demand for the North San Jose/Alviso service area for potable and non-potable water was 6,001 acre feet per year (AFY), with non-potable water making up 650 AFY of the total. The projected total demand for 2040 is 13,202 AFY[4] representing more than a 100% increase in demand.

Existing potable water consumption at the Zanker Landfill is supplied by the on-site well and imported bottle water. The well supplies the existing office, process water, landscape irrigation and site dust suppression for a total of 66.5 AFY. Drinking water is supplied by imported bottled water, which is consumed at a rate of roughly 9,200 gallons per year. The on-site well will be de-commissioned when the connection to SJMWS is established. By 2033 the final expansion of operations is projected to be completed. Without any supply from the well, 13.5 AFY of recycled water supplied by SJMWS will be used for landscape irrigation, site dust suppression, and process water/misting. 5.1 AFY of potable water supplied by SJMWS will be used for process water/misting and new office and maintenance employee facilities. This represents a total water usage of 18.6 AFY (a reduction of 47.8 AFY from the pre-project condition). Since no water is currently supplied from SJMWS, this represents an increase in demand of 18.6 AFY from SJMWS. This fits well within the projected increase in total demand of 7,201 AFY by year 2040 in North San Jose/Alviso by the WSA. Detailed water demand projections by project phase are included as Attachment 3.

[2] San Jose Municipal Water System 2010 Urban Water Management Plan, page 3-4, May 2011.
[3] San Jose Municipal Water System 2010 Urban Water Management Plan, page 3-5, table 3-7, May 2011.
[4] Water Supply Assessment for Envision San Jose 2040 General Plan Update, Table 8a, September 2010.

Table 2: Zanker Landfill Existing Operations Water Usage Summary

Operation Description	On-Site Water Well (AFY)	Recycled Water (AFY)	Potable Water (AFY)
Existing Office/Scalehouse	0.2	0	0
Process Water and Misting	13.3	0	0
Landscape Irrigation	6.6	0	0
Site Dust Suppression	46.4	0	0
Sub-Total Existing	66.5	0	0
		Total Existing Water Usage =	66.5

Table 3: Zanker Landfill Final Operations Water Usage Summary

Operation Description	On-Site Water Well (AFY)	Recycled Water (AFY)	Potable Water (AFY)
Existing Office/Scalehouse	0	0	3.2
Process Water and Misting	0	5.8	1.9
Landscape Irrigation	0	3.9	0
Site Dust Suppression	0	3.8	0
Sub-Total Final	0	13.5	5.1
		Total Final Water Usage =	18.6

Projections of demand in the North San Jose/Alviso service area for the SJMWS Water Supply Assessment were based on a demand factor of 29 gpd/employee (0.022 AFY/job) for office and industrial jobs[5]. The Landfill is proposing to add 200 employees to the SJMWS service area (40 existing employees and 160 new employees) who will work 6 days a week. Using the General Plan WSA factor, the demand increase due to the employees would be 4.4 AFY. The Site plans to use less potable water (3.2 AFY) for employee consumption than as calculated using the SJMWS Water Supply Assessment factor.

During the development of the General Plan WSA, San Jose released a spreadsheet to all water suppliers which identifies the projected jobs added. For the San Jose Municipal Water System in North San Jose/Alviso the document can be summarized in Table 4. The detailed figures were compiled within the Alviso Master Plan boundary and not assigned to individual parcels. The expansion at the Zanker Landfill fits well within the projection of jobs added.

Table 4: General Plan Water Supply Assessment Jobs Added Summary[6]

Water Service	Total Jobs Added	**Industrial/ Waterhouse**	R&D/Low-Rise	Mid & High Rise Office	Retail (small)	Retail (Large)	Institutional / Other
San Jose Municipal	112,039	**15,502**	59,989	29,064	3,556	2,337	1,591

According to the SFPUC UWMP, "The Cities of San Jose and Santa Clara are provided water by the SFPUC on a temporary, interruptible basis."[7] In 2018 the Commission will be required to make a decision whether to make San Jose a permanent customer and water supply may be increased or decreased to the area. The SJMWS UWMP assumes that the existing supply

[5] Water Supply Assessment for Envision San Jose 2040 General Plan Update, page 5, September 2010.
[6] Preferred Land Use Study Scenario – Distribution of Job and Housing Growth Capacity Spreadsheet, City of San Jose, April 15, 2010
[7] 2010 Urban Water Management Plan, San Francisco Public Utilities Commission, page 48, June 2011.

available from the SFPUC will remain the same through the year 2035. Additional sources needed to meet the future increase in demand (for the UWMP preferred alternative) have been identified as existing local groundwater wells and other services from the Santa Clara Valley Water District (SCVWD). Approximately 5,550 AFY is expected to come from these additional sources in the NSJ area beginning in the year 2025[8]. A portion of the 5,550 AFY is expected to come from four SJMWS wells within the North San Jose/Alviso service area which have not been used since 1998. They have the potential to supply 4,500 AFY[9]. Groundwater from the Santa Clara Valley basin is regulated by the SCVWD and production wells within the service areas are operated by the SJMWS.

During normal year, single dry year and multiple dry years, the UWMP Chapter 5 compares supply and demand. For all years from present to 2035 the supply is expected to meet the demand. Groundwater will be used to supplement the projected decrease in SFPUC supply due to dry years.

Table 5: Supply and Demand Comparison of SJWMS System Wide for Single Dry Year (AFY)[10]

Source	2015	2020	2025	2030	2035
SFPUC	3,387	3,387	3,387	3,387	3,387
SCVWD & Groundwater	23,604	26,231	28,922	31.962	35,041
Recycled Water	5,148	5,609	6,150	6,770	7,351
Supply Totals	32,139	35,227	38,459	42,119	45,779
Demand Totals	32,139	35,227	38,459	42,119	45,779

Expansion of the resource recovery operation at the Zanker Landfill and Materials Processing Facility, along with the extension of water lines to provide service to the site, will result in an increased water demand from the San Jose Municipal Water System. This demand for industrial uses has been planned and accounted for in the general growth assumptions in the Urban Water Management Plan and General Plan Water Supply Assessment.

[8] San Jose Municipal Water System 2010 Urban Water Management Plan, page 4-14, May 2011.
[9] Water Supply Assessment for Envision San Jose 2040 General Plan Update, page 13, September 2010.
[10] San Jose Municipal Water System 2010 Urban Water Management Plan, table 5-5, May 2011.

Zoning Districts

OS.....Open Space
A.....Agricultural
R-1-8, R-1-5, R-1-2, R-1-1.....Single-Family Residential
R-2.....Two-Family Residential
R-M.....Multi-Family Residential
R-1-RR.....Rural Residential
R-MH.....Mobilehome Residential
CO.....Commercial Office
CP.....Commercial Pedestrian
CN.....Commercial Neighborhood
CG.....Commercial General
DC.....Downtown Commercial
DC-NT1.....Downtown Commercial Neighborhood Transition 1
MS-G.....Main Street Ground-Floor Commercial
MS-C.....Main Street Commercial
CIC.....Combined Industrial/Commercial
IP.....Industrial Park
LI.....Light Industrial
HI.....Heavy Industrial
(PD).....Planned Development
(overlay district that is combined with one of the conventional zoning districts listed above, that allows any specifically approved use or uses)

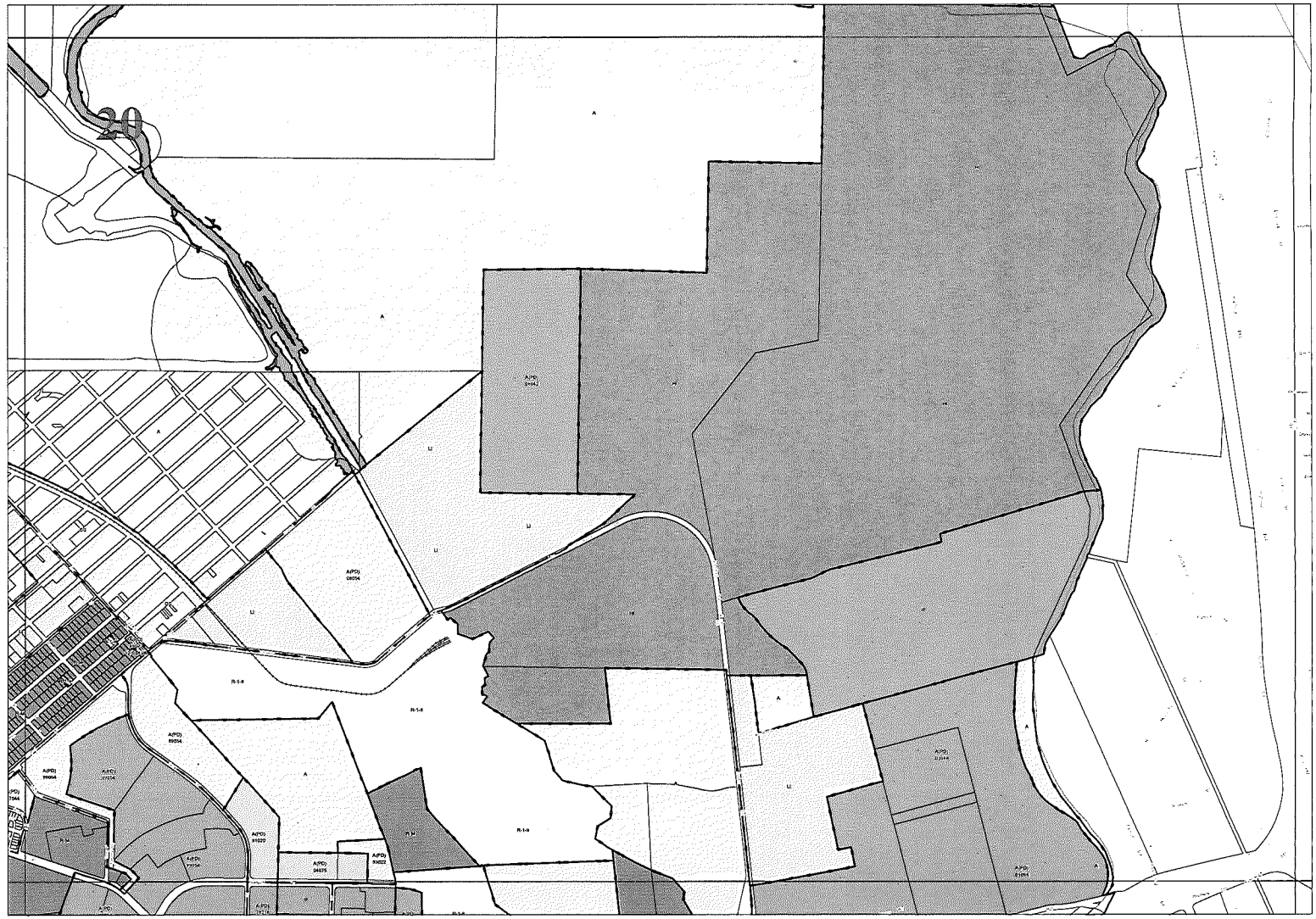
Zoning Labels (Sample)

A(PD).....Zoning District
93050.....Zone Change File Number (e.g., PDC93-050)
34.0 DU/A.....Approved Residential Density (dwelling units per acre)

Map Legend

.....Zoning District Boundary
.....Historic District Boundary (work requires Planning permit)
☆.....Historic City Landmark (work requires Planning permit)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

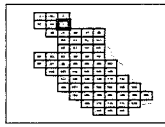


Zoning Map

Department of Planning, Building & Code Enforcement
Planning Division

Scale: 1"= 600'
Updated: Jan. 1, 2013

N W E S



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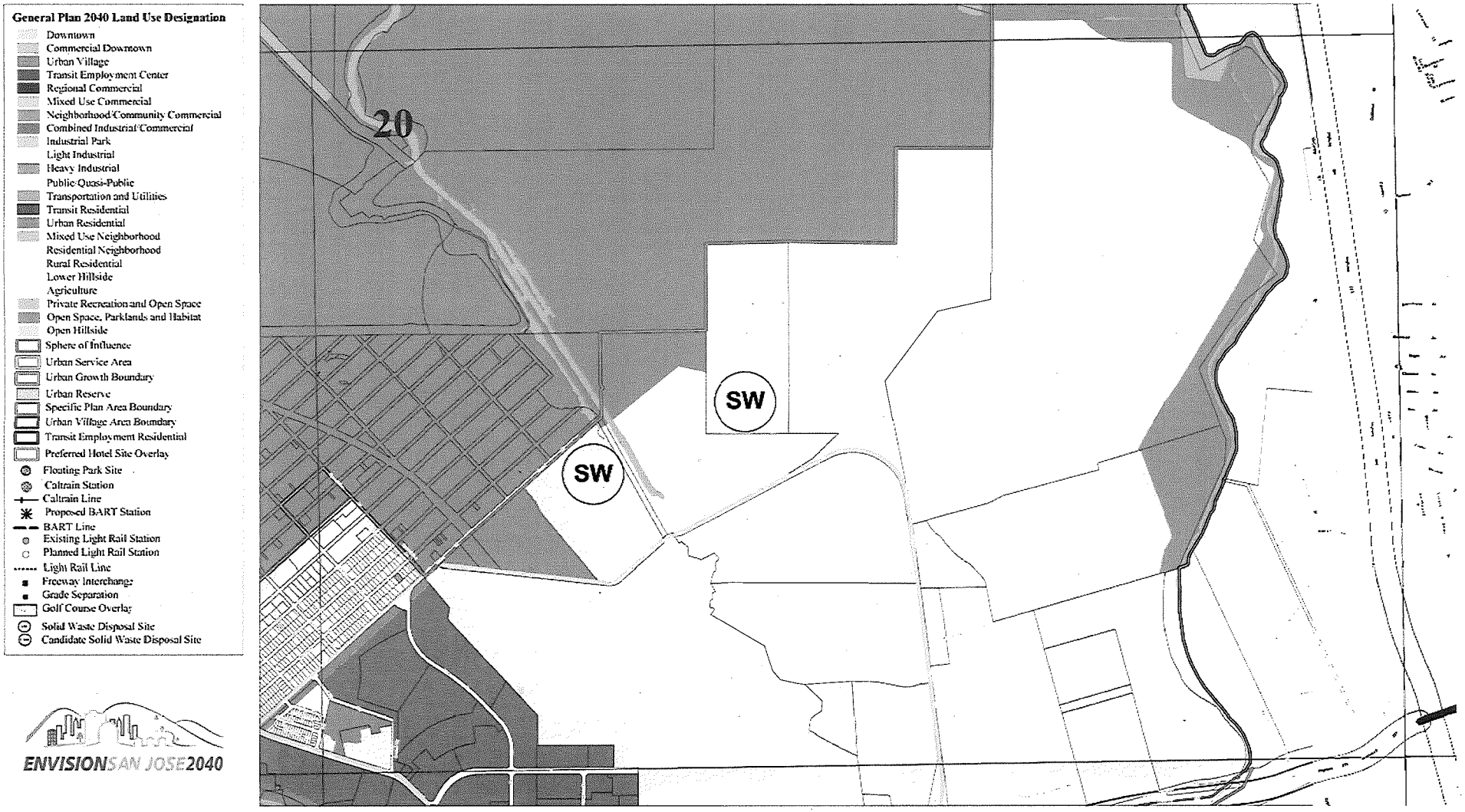

ENVISIONSAN JOSE2040

General Plan Diagram

Department of Planning, Building & Code Enforcement

Planning Division

Scale: 1" = 600'

Updated: Jan. 1, 2013

20

Description	On-Site Water Well (gallons per year)	Recycled Water (gallons per year)	Potable Water (gallons per year)	Assumptions
EXISTING OPERATIONS				
Existing Office/Scalehouse	52,000	0	0	1,000 gallons per week
Process Water and Misting	4,320,000	0	0	20% of current well water usage
Landscape Irrigation	2,160,000	0	0	10% of current well water usage
Site Dust Suppression	15,120,000	0	0	70% of current well water usage
TOTAL	21,652,000	0	0	21,652,000 TOTAL WATER USAGE
PHASE 1 OPERATIONS (1,800 tons per day with existing equipment and hours of operation + landfill closure)				
New Office and Existing Scalehouse	0	0	78,000	1,500 gallons per week (avg)
Process Water and Misting	0	4,665,600	1,555,200	44% increase over existing operations; 75% reclaimed water for processing
Landscape Irrigation	0	3,110,400	0	44% increase over existing operations
Closure/Earthfill Construction	0	1,872,000	0	Assume 6,000 gallons per day (avg)
Site Dust Suppression	0	21,772,800	0	44% increase over existing operations
TOTAL	0	31,420,800	1,633,200	33,054,000
	Assume on-site well is decommissioned with availabilty of reclaimed and municipal water supply			TOTAL WATER USAGE
PHASE 2 OPERATIONS (1800 tpd on existing sort line, no demo plant + landfill closure, engineered fill and first half of MRF construction)				
New Office and Existing Scalehouse	0	0	78,000	1,500 gallons per week (avg)
Process Water and Misting	0	6,065,280	2,021,760	30% of Phase 1 operations
Landscape Irrigation	0	3,110,400	0	same as Phase 1 operations
Closure/Earthfill Construction	0	2,808,000	0	Assume 50% increase over Phase 1 operations
Site Dust Suppression	0	16,329,600	0	75% of Phase 1 operations
TOTAL	0	28,313,280	2,099,760	30,413,040 TOTAL WATER USAGE
PHASE 3 OPERATIONS (1800 tpd on existing sort line + 1800 tpd inside new 100,000 sf MRF building)				
New Office and Existing Scalehouse	0	0	104,000	2,000 gallons per week (avg)
Process Water and Misting	0	7,581,600	2,527,200	25% increase over Phase 2 operations to accommodate new MRF operations
Landscape Irrigation	0	3,110,400	0	same as Phases 1 and 2 operations
Closure/Earthfill Construction	0	0	0	Assume no closure or earthfill construction
Site Dust Suppression	0	8,164,800	0	50% of Phase 2 operations
TOTAL	0	18,856,800	2,631,200	21,488,000 TOTAL WATER USAGE
PHASE 4 OPERATIONS (no outside operations + up to 3600 tpd inside new 100,000 sf MRF building + continued earthfill construction)				
New Office and Existing Scalehouse	0	0	104,000	same as Phase 3 operations
Process Water and Misting	0	3,790,800	1,263,600	50% of Phase 2 operations to accommodate MRF operations
Landscape Irrigation	0	2,488,320	0	assume 80% of Phase 3 operations
Earthfill Construction	0	1,872,000	0	Assume 6,000 gallons per day (avg)
Site Dust Suppression	0	8,164,800	0	same as Phases 2 and 3 operations
TOTAL	0	16,315,920	1,367,600	17,683,520 TOTAL WATER USAGE

Description	On-Site Water Well	Recycled Water	Potable Water	Assumptions
PHASE S OPERATIONS (no outside operations + up to 3600 tpd inside new 100,000 sf MRF building + construction of new scales, maintenance/employee building and employee parking)				
New Office and Existing Scalehouse	0	0	104,000	same as Phases 3 and 4 operations
Process Water and Misting	0	3,790,800	1,263,600	same as Phase 4 operations
Landscape Irrigation	0	1,990,656	0	assume 80% of Phase 4 operations
Construction	0	312,000	0	Assume 1,000 gallons per day (avg)
Site Dust Suppression	0	4,082,400	0	50% of Phase 4 operations
TOTAL	0	10,175,856	1,367,600	11,543,456
				TOTAL WATER USAGE
PHASE 6 OPERATIONS (no outside operations + up to 3600 tpd inside new 100,000 sf MRF building + new scales and maintenance/employee building)				
New Office, New Scalehouse and New Maintenance/Employee Facility	0	0	208,000	4,000 gallons per day (avg)
Process Water and Misting	0	3,790,800	1,263,600	same as Phases 4 and 5 operations
Landscape Irrigation	0	1,592,525	0	assume 80% of Phase 5 operations
Construction	0	0	0	Assume no construction
Site Dust Suppression	0	1,248,000	0	minimal (4,000 gallons per day)
TOTAL	0	6,631,325	1,471,600	8,102,925
				TOTAL WATER USAGE
PHASE 7 OPERATIONS (no outside operations + up to 3600 tpd inside new 100,000 sf MRF building + new scales and maintenance/employee building + construction of 2nd half of MRF)				
New Office, New Scalehouse and New Maintenance/Employee Facility	0	0	208,000	same as Phase 6
Process Water and Misting	0	3,790,800	1,263,600	same as Phases 4, 5 and 6 operations
Landscape Irrigation	0	1,274,020	0	assume 80% of Phase 6 operations
Construction	0	312,000	0	Assume 1,000 gallons per day (avg)
Site Dust Suppression	0	1,248,000	0	minimal (4,000 gallons per day)
TOTAL	0	6,624,820	1,471,600	8,096,420
				TOTAL WATER USAGE
FINAL OPERATIONS (no outside operations + up to 5000 tpd inside new 200,000 sf MRF building + new scales and maintenance/employee building)				
New Office, New Scalehouse and New Maintenance/Employee Facility	0	0	1,040,000	20,000 gallons per day
Process Water and Misting	0	1,895,400	631,800	50% more than Phases 4, 5, 6 and 7
Landscape Irrigation	0	1,274,020	0	same as Phase 7 operations
Construction	0	0	0	Assume no construction
Site Dust Suppression	0	1,248,000	0	minimal (4,000 gallons per day)
TOTAL	0	4,417,420	1,671,800	6,089,220
				TOTAL WATER USAGE